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HUMAN-WILDLIFE CONFLICT & COEXISTENCE
/ CASE STUDIES

REDUCING HUMAN-CARNIVORE CONFLICT THROUGH PARTICIPATORY RESEARCH

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INTRODUCTION

THE RUPUNUNI REGION IN GUYANA IS AN ANCIENT RIFT VALLEY BORDERED BY MOUNTAINS, WITH CERRADO SAVANNA, GALLERY AND SAVANNA FORESTS, RIVERS, CREEKS AND SEASONALLY FLOODED WETLANDS BORDERED BY LARGE TRACTS OF LOWLAND AND MONTANE FORESTS.

The presence of forested islands creates edge habitats for many wildlife species, such as jaguar *Panthera onca*, tapir *Tapirus terrestris*, capybara *Hydrochaeris hydrochaeris*, harpy eagle *Harpia harpyja*, to name a few. The human population density in the region is very low (0.4 people/km²), with communities consisting of predominantly indigenous Makushi and Wapichan people, with mixed populations including Guyana's nine indigenous groups. The primary livelihoods in the region are subsistence fishing, farming and hunting.

KEY INSIGHTS & LESSONS LEARNT
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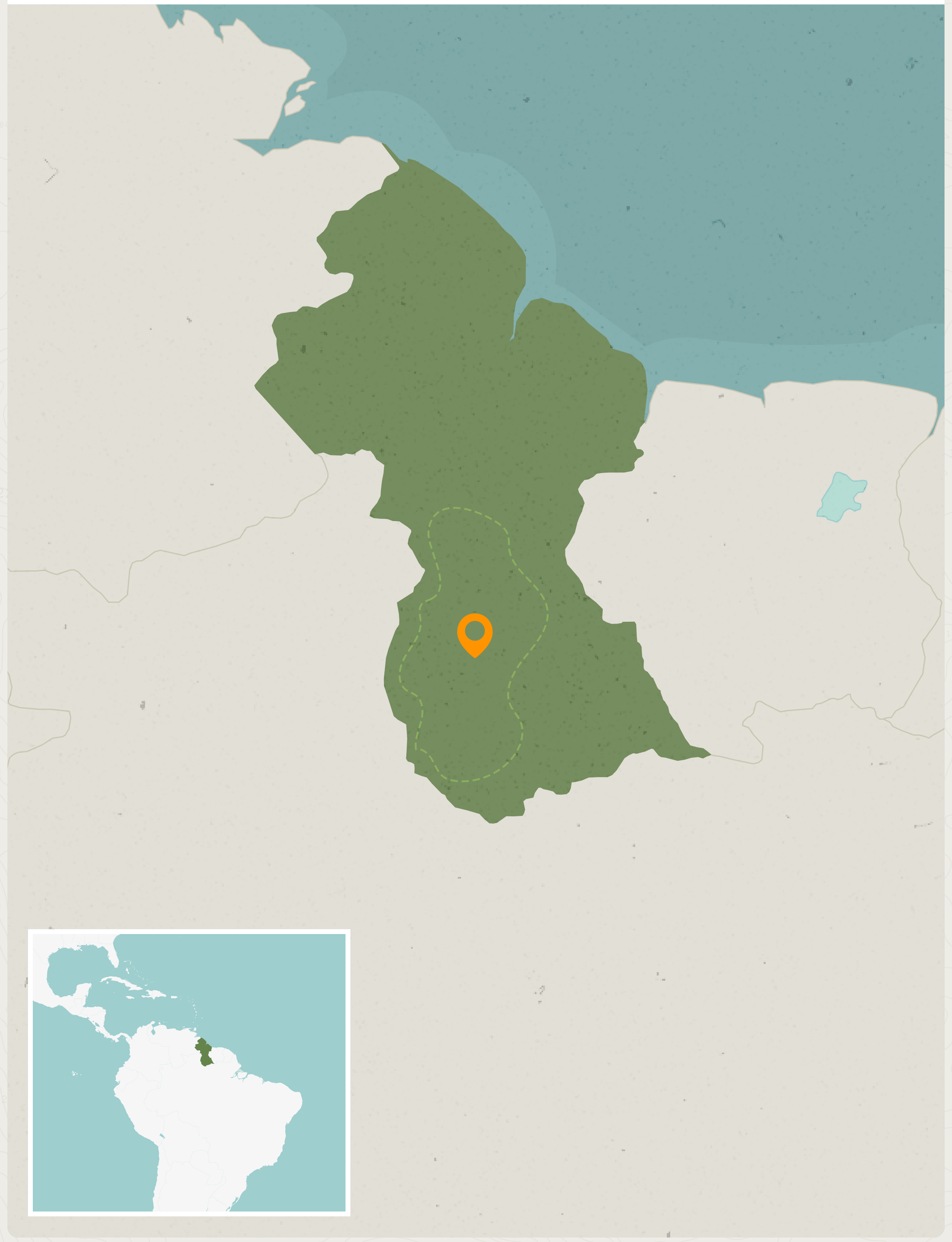
RUPUNUNI
REGION

RUPUNUNI REGION,
GUYANA



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The Sustainable Wildlife Management (SWM) Programme in Guyana (hereafter “the SWM Programme”) aims to ensure that *"wildlife, ecosystems and their services are conserved and the living conditions, food security and cultural identity of rural villages are improved".* Under one component of the programme, local beneficiaries led by the Rupununi Livestock Producers Association (RLPA) had identified that

HUMAN-WILDLIFE CONFLICT WAS A SIGNIFICANT ISSUE IN THE REGION, REQUIRING SPECIFIC AND URGENT ATTENTION.

The programme established a body of work for reducing the human-carnivore conflict by conducting participatory research with the impacted communities facilitated in collaboration with the Department of Wildlife Ecology & Conservation at the University of Florida and the Guyana Conservation Initiative at the Jacksonville Zoo & Gardens. This case study highlights the initial steps taken to understand the situation further to help inform future management.

The **SWM Programme** is developing innovative, collaborative and scalable models, which conserve wildlife and protect ecosystems, whilst at the same time improving the living conditions and food security of the people who depend on these resources. The SWM Programme is an initiative of the Organisation of African, Caribbean and Pacific States (OACPS) and is funded by the European Union with co-funding from the French Facility for Global Environment and the French Development Agency. It is implemented through a consortium partnership, which includes the Food and Agriculture Organization of the United Nations (FAO), the Center for International Forestry Research (CIFOR), the French Agricultural Research Centre for International Development (CIRAD), and the Wildlife Conservation Society (WCS).

PROBLEM ANALYSIS

THE RUPUNUNI REGION HAD SUPPORTED LARGE CATTLE RANCHING OPERATIONS FOR HUNDREDS OF YEARS.

Now some of the largest private ranches have converted to a mixture of cattle rearing and ecotourism. Although livestock depredation occurs, the ranchers are largely more tolerant due to their ecotourism ventures. However, Indigenous communities adopted livestock management into their culture in the 1960s and now manage small, free-ranging herds. These small herds constitute a significant investment for the communities and deliver much-needed income for the largely subsistence-based households.

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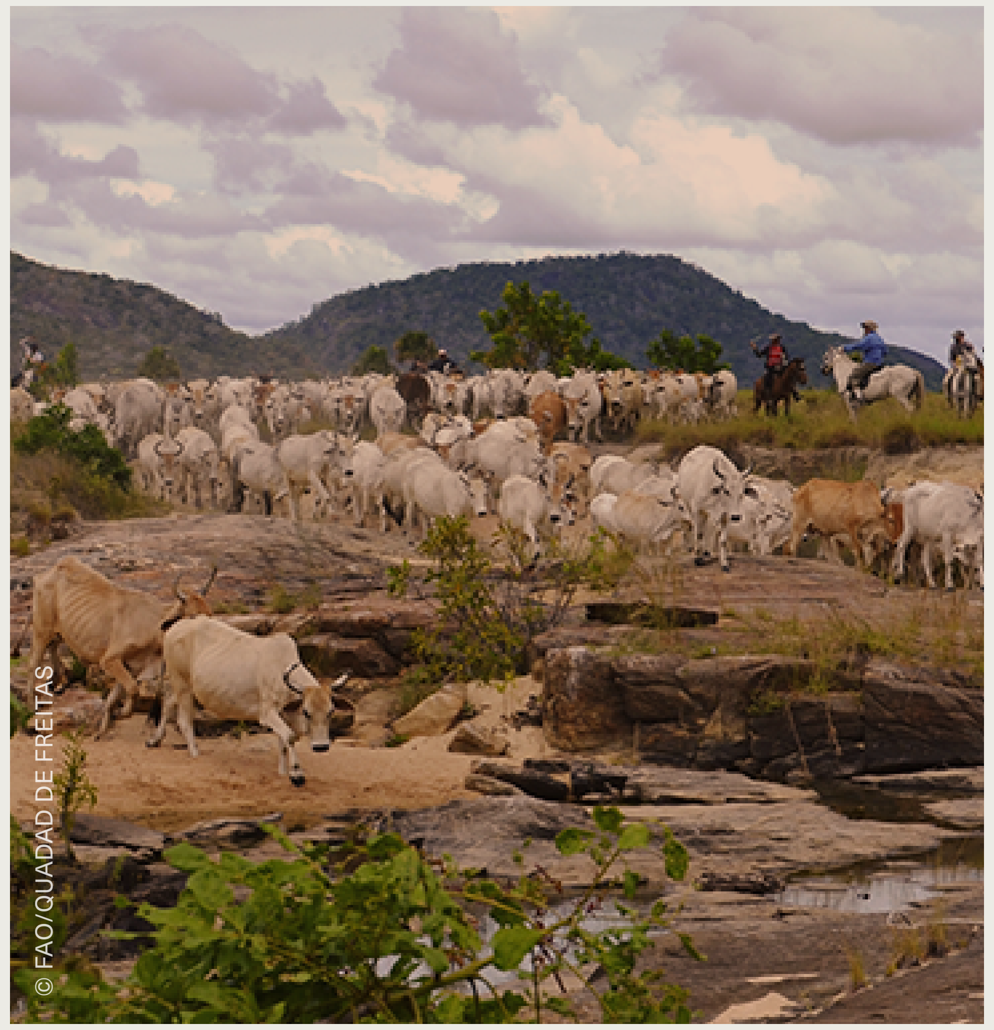

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INITIAL SURVEYS OF RUPUNUNI VILLAGE LEADERS CONDUCTED IN 2013 AS PART OF AN MSC AND SUBSEQUENT PHD PROJECT HAD FOUND THAT COMMUNITY MEMBERS IN THE REGION CAN LOSE 10-25 PERCENT OF THEIR TOTAL LIVESTOCK EACH YEAR TO LARGE CARNIVORES.

A subsequent survey in 2013 of 102 households found that over 50 percent had experienced impacts a few times per year, with a third indicating a few times a month and 16 percent noting a few times a week. 80 percent of households identified jaguars as the most problematic animal in their lives, two-thirds reported not liking having jaguars around, and over half indicated that they would actively kill a jaguar in retaliation for livestock depredation. The survey also noted that retaliatory killing happened every year.

While conducting the surveys, the researchers became aware through discussions with the community members that human-wildlife conflict, particularly human-jaguar conflict, was a big issue in the area, despite a low human population density.

PROCESS

The SWM Programme takes a Community Rights-Based Approach (CRBA) to its pilot sites to ensure that

01 RIGHT-HOLDERS ARE EMPOWERED TO CLAIM AND EXERCISE THEIR RIGHTS

02 DUTY-BEARERS HAVE THE CAPACITY TO RESPECT, PROTECT AND FULFIL RIGHTS OF THE RIGHTS-HOLDERS

03 NO-HARM OR HUMAN RIGHTS VIOLATIONS TO ANY INDIVIDUALS OR GROUP OCCUR ARE A RESULT OF PROJECT ACTIVITIES

At the programme's initiation, a Free, Prior and Informed Consent (FPIC) process was conducted with the communities in the region.

THIS ENSURED THAT INDIGENOUS PEOPLES AND LOCAL COMMUNITIES (ILPCS) WERE FREE TO GIVE OR WITHHOLD CONSENT TO AN ACTIVITY AND WERE FULLY INVOLVED IN PROJECT DESIGN, IMPLEMENTATION, MONITORING AND EVALUATION.

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The SWM Programme staff met with the village councils of each community in the region which consisted of approximately 55 communities. The SWM Programme was explained, providing the communities with all the required information to decide on their involvement, highlighting that the activities would be designed and carried out jointly. It was explicitly expressed that if the communities decide to partake, they could withdraw from the SWM Programme at any point. It was then up to the communities to determine whether they would like to be part of the SWM Programme, with the communities given all the time they required to make the decision.

As of December 2021, 42 communities agreed to partake in the SWM Programme and formed a steering committee with other organisations, including civil society and governmental institutions. During meetings, the committee discussed the activities or thematic areas that should be covered during the SWM Programme. Through discussions with the communities, the issue of human-wildlife conflict was raised as requiring attention.

THE COMMUNITIES FELT THAT THERE WERE GAPS IN UNDERSTANDING THE CURRENT STATUS OF HUMAN-WILDLIFE CONFLICT, AND EFFORTS SHOULD BE PLACED INTO THIS BEFORE DEVELOPING ANY ACTION PLAN.

The communities decided that the purpose of the SWM Programme at the Guyana pilot site should be to reduce the retaliatory killing of jaguars in the Rupununi region by facilitating the development of data-driven cattle management strategies and identified five objectives:

01 INCREASE THE UNDERSTANDING OF THE MOVEMENTS, ACTIVITY PATTERNS, AND HABITAT SELECTION OF THE FREE-ROAMING CATTLE HERDS

02 INCREASE THE UNDERSTANDING OF THE CURRENT AND HISTORIC FREQUENCY AND DISTRIBUTION OF LIVESTOCK DEPREDATION

03 INCREASE THE UNDERSTANDING OF THE SPATIAL OVERLAP OF LIVESTOCK AND LARGE CARNIVORES

04 INCREASE THE UNDERSTANDING OF ATTITUDES TOWARDS LARGE CARNIVORES AND DRIVERS OF HUMAN-WILDLIFE CONFLICT

05 DEVELOP DATA-DRIVEN RECOMMENDATIONS AND FACILITATE A LIVESTOCK MANAGEMENT PLANNING PROCESS

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The criteria for study site selection within the Rupununi region were pre-set to ensure a representative sample was chosen. Sites were selected to provide an equal distribution across the region, including sites managed by communities and private ranchers, using different livestock management strategies, involving different herd sizes and covering various habitat types. Ten study sites were selected to generate a representative sample.

> AT EACH SITE, MANAGERS, COORDINATORS AND RESEARCH ASSISTANTS WERE EMPLOYED FROM THE COMMUNITY.

Research assistants were provided with training in the data collection and processing components. Much of the work was completed through the local programme partners, community organisations (South Rupununi District Council; North Rupununi District Development Board; South Pakaraimas) and civil society (The Rupununi Livestock Producers Association; South Rupununi Conservation Society; Visit Rupununi; Caiman House).

The steering committee would meet twice a year to assess the SWM Programme's progress and determine if any issues needed resolving or activities adapting.

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ACTIVITIES

TO ACHIEVE THE OBJECTIVES OF THE SWM PROGRAMME, SEVERAL RESEARCH ACTIVITIES WERE AND WILL BE FURTHER CONDUCTED IN THE SELECTED STUDY SITES, NAMELY:

In June 2021, custom-built GPS collars were deployed on the free-roaming cattle at the study sites. Alongside satellite images, the data collected will be used to identify how the cattle use the landscape, which was of particular interest to the livestock owners.

Camera traps will be set at the ten study sites with essential resources for both livestock and large carnivores, complementing data collected in an earlier camera trapping study at a broader scale to understand the spatial and temporal overlap of the predators in the region and their potential prey.

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A participatory risk mapping process was undertaken to identify concerns households have in the Rupununi region, living or working close to wildlife, and ranking these concerns in order of severity to them before mapping important local features such as community resources like schools, lodges, cattle corrals and where these risks identified occur spatially. The participants mapped resources necessary to cattle. All features identified on the maps were visited to digitise the maps produced.

Evidence of depredation events that occur during the SWM Programme will be collected using smartphones. Historic depredation events during the previous two years will be attended through discussions with the livestock managers.

Semi-structured interviews with open and closed questions were conducted with households in the study sites to collect information on perceived impacts of jaguars; perceived risks to people from jaguars and vice versa; and understanding community members' potential role as guardians in preventing and/or responding to jaguar killing.

NEXT STEPS

The data collected in the SWM Programme's research phase will be used to identify the drivers of cattle depredation events across space and time, and inform what types of management activities could be implemented in the Rupununi region. The findings will be presented at workshops with all partners and stakeholders involved in the SWM Programme in March 2022. Each partner will have the opportunity to provide feedback and make suggestions for how this information can be used moving forward.

> BY TAKING A COLLABORATIVE PROCESS, THE SWM PROGRAMME AIMS TO IDENTIFY MANAGEMENT STRATEGIES THAT CAN BE IMPLEMENTED AND SEEK PARTNERSHIPS WITH THE CATTLE OWNERS IN THE REGION TO IMPLEMENT THE SUGGESTIONS IN THE NEXT PHASE OF THE SWM PROGRAMME.

Activities on human-wildlife conflict in the Rupununi and Guyana will continue after the lifetime of the SWM Programme through the partnerships established with local organisations including CIFOR, Government of Guyana, communities and representative groups, South Rupununi Conservation Society and Caiman House.

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KEY INSIGHTS & LESSONS LEARNT

01 ETHICAL APPROACH

By taking a CRBA to the SWM Programme design and implementation following a FPIC process, the SWM Programme automatically received community support as it was a community programme, creating transparency, valuing local knowledge and creating shared goals that helped to align stakeholders in the approach taken. While crucial to conduct this, it did create some delays as general elections occurred during the SWM Programme, resulting in leadership changes requiring the FPIC process to be undertaken with the new community leaders.

02 ENGAGING AND LISTENING

Throughout the SWM Programme, the focus has been placed on engaging stakeholders through many meetings to ensure shared goals and that the SWM Programme truly delivers what the communities require.

03 IMPORTANCE OF RELATIONSHIPS

Although the SWM Programme started in 2018, the human-wildlife conflict component only started in 2021. However, many of the relationships with the stakeholders had been developed since the beginning of the SWM Programme and even from earlier projects in the Rupununi region. The SWM Programme helped provide a framework to formalise these relationships, while the previous work helped develop an interest in understanding the situation further.

04 CO-RESEARCH

The SWM Programme aimed to ensure that all stakeholders in the programme felt they were co-researchers and were encouraged to share their thoughts and opinions on how the research was developing so they could adapt if necessary.

05 NETWORKING

The SWM Programme found that ranchers were relatively isolated and would often want to meet with other ranchers in the region to learn about their approaches, discuss their craft and livelihoods together.

06 FLEXIBLE FUNDING

The funder for the SWM Programme allowed an adaptive management approach, which meant that the stakeholders could decide on plans for each year, evaluating what was working and what wasn't, what should be adapted and what additional activities should be done.

07 ADDITIONAL CAPACITY BUILDING

The SWM Programme staff provided capacity building on topics from camera trapping, data analysis, participatory mapping, photography and report writing. This helped to build relationships with the stakeholders further.

08 CONTEXT IS KEY

Despite the stakeholders often facing similar situations (at the dispute level), the SWM Programme found that context to these situations was key as communities had different cultures, histories, and socio-ecological processes requiring different approaches to managing the situation.

FURTHER INFORMATION

- Sustainable Wildlife Management Programme web portal
- Animated story on community rights and wildlife conservation
- Why is our Rupununi livestock system environmentally friendly?
- SWM Programme Newsletter, GUYANA January – October 2021
- Survey of human-wildlife conflict, resource use and attitudes towards conservation and sustainable development in the Kanuku Mountains, Rupununi, Guyana
- University of Florida, Department of Wildlife Ecology & Conservation
- Conservation Department, Jacksonville Zoo & Gardens
- University of Florida, Tropical Conservation & Development Program

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ABOUT THE CASE STUDIES

The **Food and Agriculture Organisation** (FAO) of the United Nations and the **IUCN SSC Human-Wildlife Conflict Task Force** (HWCTF) have jointly developed a set of case studies with the aim of covering the process projects have taken to manage various aspects of a human-wildlife conflict & coexistence situation. This case study is one of many that will be used to illustrate key components of the **IUCN SSC Guidelines on Human-Wildlife Conflict & Coexistence**. The published case studies can be found in the **Human-Wildlife Conflict & Coexistence Library.**

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